

1. Describe or show a way that you can find all the factors of a number without missing any. Use 24 as an example.

2. Why do perfect squares always have an odd number of factors? Explain and give a few examples.

3. What is the greatest common factor of 18 and 20? Show how you know.

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4. What is the least common multiple of 5 and 9? Show how you know.

5. Can the LCM of two numbers be smaller than the numbers? Explain. You can use an example to help you.

6. Can the LCM of two numbers be bigger than the numbers? Explain. You can use an example to help you.

7. Can the GCF of two numbers be smaller than the numbers? Explain. You can use an example to help you.

8. Can the GCF of two numbers be bigger than numbers? Explain. You can use an example to help you.

9. Use the divisibility rules to determine whether 3 and 4 are factors of 426.

10. What are the first 10 prime numbers?

11. Why is 2 a special prime number?

12. Use a systematic method to find all the factors of 108.

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13. Use square tiles to make as many rectangles as you can with
- a. 12 tiles
  - b. 18 tiles
  - c. 36 tiles
  - d. 11 tiles.

You must use all the tiles for each one. Example: for 8 tiles you would have two rectangles: 1-by-8 and 2-by-4 (8-by-1 and 4-by-2 are not different rectangles). Keep track of your rectangles by drawing them on graph paper. How does the number of rectangles relate to how many factors a number has?

14. If a pattern is: 

what will the 48<sup>th</sup> term of the pattern be? Explain.

15. Your school PAC is going to make hamburgers for the back-to-school picnic. Hamburger patties come in packs of 12 and buns come in packs of 8.

How many packs of each would need to be bought to have the same number of patties and buns?

How many packs of each will the PAC need to buy if they are expecting 300 people at the picnic?

16. Ali has 12 apples, 20 grapes, and 8 pears. They want to divide them equally into containers. What is the minimum number of containers Ali can use? How many of each fruit will be in each container?

17. Find the GCF and LCM of:

a. 24 and 36

b. 16 and 80

18. Why isn't 1 prime or composite?

19. Pencils come in packages of 10. Erasers come in packages of 12. Phillip wants to purchase the smallest number of pencils and erasers so that he will have exactly 1 eraser per pencil. How many packages of pencils and erasers should Phillip buy?

20. Make a factor tree for 42 and one for 13. What are their prime factorizations?

21. When the GCF of two numbers is 1, what can you say about their LCM?  
Try some examples to find out.

22. Use divisibility rules to determine if 380 and 2403 are divisible by 2, 3, 4, 5, 6, 9, and 10.

23. Which one of the following numbers is prime? How do you know?

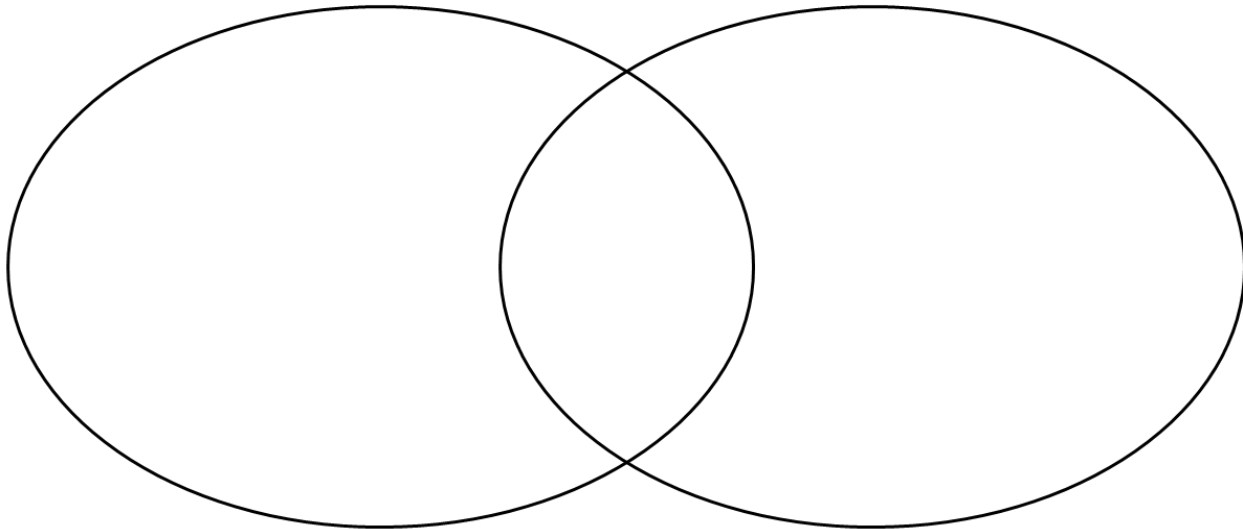
266, 480, 761, 909

24. Are all odd numbers prime? Why or why not?

25. Place the numbers in the correct positions in the Venn diagram below.

Factors of 24

Factors of 36



1, 2, 3, 4, 6, 8, 9, 12, 18, 24, 36

26. In a grade 6 class, the number of students in the class is prime. There are between 20 and 30 students in the class. How many students could there be?

27. Here is a hundred chart. Are there more prime numbers between 1 and 100 or more composite numbers? How do you know?

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

5. Write two numbers that have an LCM of 30.

6. Write two numbers that have an LCM of 45.

7. The 4-digit number below is divisible by 6. What could the number be? Explain or show your thinking.

49\_\_\_\_



8. Write a number that is divisible by 2 and 5, but not 3.

9. What are two numbers that have at least one 2 and one 3 in their prime factorizations? Your numbers can have other prime factors as well.

10. What pattern do the multiples of 3 make in a hundred chart?

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100